

and service. I urge my colleagues to join me in saluting Al and Marge Fishman and pay tribute to them, together with Peace Action of Michigan in continuing the fight for peace and justice.

DEPARTMENT OF ENERGY UNIVERSITY NUCLEAR SCIENCE AND ENGINEERING ACT

HON. JUDY BIGGERT

OF ILLINOIS

IN THE HOUSE OF REPRESENTATIVES

Tuesday, June 12, 2001

Mrs. BIGGERT. Mr. Speaker, today I introduced the Department of Energy University Nuclear Science and Engineering Act, the text of which follows:

H.R.—

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as “Department of Energy University Nuclear Science and Engineering Act”.

SEC. 2. FINDINGS.

The Congress finds the following:

(1) U.S. university nuclear science and engineering programs are in a state of serious decline. The supply of bachelor degree nuclear science and engineering personnel in the United States is at a 35-year low. The number of four year degree nuclear engineering programs has declined 50 percent to approximately 25 programs nationwide. Over two thirds of the faculty in these programs are 45 years old or older.

(2) Universities cannot afford to support their research and training reactors. Since 1980, the number of small training reactors in the United States have declined by over 50 percent to 28 reactors. Most of these reactors were built in the late 1950's and 1960's with 30- to 40-year operating licenses, and will require re-licensing in the next several years.

(3) The neglect in human investment and training infrastructure is affecting 50 years of national R&D investment. The decline in a competent nuclear workforce, and the lack of adequately trained nuclear scientists and engineers, will affect the ability of the United States to solve future waste storage issues, operate existing and design future fission reactors in the United States, respond to future nuclear events worldwide, help stem the proliferation of nuclear weapons, and design and operate naval nuclear reactors.

(4) Future neglect in the nation's investment in human resources for the nuclear sciences will lead to a downward spiral. As the number of nuclear science departments shrink, faculties age, and training reactors close, the appeal of nuclear science will be lost to future generations of students.

(5) Current projections are that 50 percent of industry's nuclear workforce can retire 10 to 15 years, and 76 percent of the nuclear workforce at our national labs can retire in the next 5 years. A new supply of trained scientists and engineers to replace this retiring workforce is urgently needed.

(6) The Department of Energy's Office of Nuclear Energy, Science and Technology is well suited to help maintain tomorrow's human resource and training investment in the nuclear sciences. Through its support of research and development pursuant to the Department's statutory authorities, the Office of Nuclear Energy, Science and Technology is the principal federal agent for ci-

vilian research in the nuclear sciences for the United States. The Office maintains the Nuclear Engineering and Education Research Program which funds basic nuclear science and engineering. The Office funds the Nuclear Energy and Research Initiative which funds applied collaborative research among universities, industry and national laboratories in the areas of proliferation resistant fuel cycles and future fission power systems. The Office funds Universities to refuel training reactors from highly enriched to low enriched proliferation tolerant fuels, performs instrumentation upgrades and maintains a program of student fellowships for nuclear science and engineering

SEC. 3. DEPARTMENT OF ENERGY PROGRAM.

(a) ESTABLISHMENT.—The Secretary of Energy, through the Office of Nuclear Energy, Science and Technology, shall support a program to maintain the nation's human resource investment and infrastructure in the nuclear sciences and engineering consistent with the Department's statutory authorities related to civilian nuclear research and development.

(b) DUTIES OF THE OFFICE OF NUCLEAR ENERGY, SCIENCE AND TECHNOLOGY.—In carrying out the program under this Act, the Director of the Office of Nuclear Science and Technology shall—

(1) develop a robust graduate and undergraduate fellowship program to attract new and talented students,

(2) assist universities in recruiting and retaining new faculty in the nuclear sciences and engineering through a Junior Faculty Research Initiation Grant Program;

(3) maintain a robust investment in the fundamental nuclear sciences and engineering through the Nuclear Engineering Education Research Program,

(4) encourage collaborative nuclear research between industry, national laboratories and universities through the Nuclear Energy Research Initiative; and

(5) support communication and outreach related to nuclear science and engineering.

(c) MAINTAINING UNIVERSITY RESEARCH AND TRAINING REACTORS AND ASSOCIATED INFRASTRUCTURE.—Within the funds authorized to be appropriated pursuant to this Act, the amounts specified under section 4(b) shall, subject to appropriations, be available for the following research and training reactor infrastructure maintenance and research:

(1) Refueling of research reactors with low enriched fuels, upgrade of operational instrumentation, and sharing of reactors among universities.

(2) In collaboration with the U.S. nuclear industry, assistance, where necessary, in re-licensing and upgrading training reactors as part of a student training program.

(3) A reactor research and training award program that provides for reactor improvements as part of a focused effort that emphasizes research, training, and education.

(d) UNIVERSITY-DOE LABORATORY INTERACTIONS.—The Secretary of Energy, through the Office of Nuclear Science and Technology, shall develop—

(1) a sabbatical fellowship program for university professors to spend extended periods of time at Department of Energy, laboratories in the areas of nuclear science and technology; and

(2) a visiting scientist program in which laboratory, staff can spend time in academic nuclear science and engineering departments. The Secretary may under section 3(b)(1) provide for fellowships for students to spend time at Department of Energy laboratories in the area of nuclear science under the mentorship of laboratory staff.

(e) OPERATIONS AND MAINTENANCE.—For the research programs described, portions there-

of may be used to supplement operation of the research reactor during investigator's proposed effort provided the host institution provides cost sharing in the reactor's operation.

(f) MERIT REVIEW REQUIRED.—All grants, contracts, cooperative agreements, or other financial assistance awards under this Act shall be made only after independent merit review.

SEC. 4. AUTHORIZATION OF APPROPRIATIONS.

(a) TOTAL AUTHORIZATION.—The following sums are authorized to be appropriated to the Secretary of Energy, to remain available until expended, for the purposes of carrying out this Act:

(1) \$30,200,000 for fiscal year 2002.

(2) \$42,000,000 for fiscal year 2003.

(3) \$47,850,000 for fiscal year 2004.

(4) \$55,600,000 for fiscal year 2005.

(5) \$64,100,000 for fiscal year 2006.

(b) GRADUATE AND UNDERGRADUATE FELLOWSHIPS.—Of the funds under subsection (a), the following sums are authorized to be appropriated to carry out section 3 (b) (1):

(1) \$3,000,000 for fiscal year 2002.

(2) \$3,100,000 for fiscal year 2003.

(3) \$3,200,000 for fiscal year 2004.

(4) \$3,200,000 for fiscal year 2005.

(5) \$3,200,000 for fiscal year 2006.

(c) JUNIOR FACULTY RESEARCH INITIATION GRANT PROGRAM.—Of the funds under subsection (a), the following sums are authorized to be appropriated to carry out section 3(b)(2):

(1) \$5,000,000 for fiscal year 2002.

(2) \$7,000,000 for fiscal year 2003.

(3) \$8,000,000 for fiscal year 2004.

(4) \$9,000,000 for fiscal year 2005.

(5) \$10,000,000 for fiscal year 2006.

(d) NUCLEAR ENGINEERING AND EDUCATION RESEARCH PROGRAM.—Of the funds under subsection (a), the following sums are authorized to be appropriated to carry out section 3 (b) (3):

(1) \$8,000,000 for fiscal year 2002.

(2) \$12,000,000 for fiscal year 2003.

(3) \$13,000,000 for fiscal year 2004.

(4) \$15,000,000 for fiscal year 2005.

(5) \$20,000,000 for fiscal year 2006.

(e) COMMUNICATION AND OUTREACH RELATED TO NUCLEAR SCIENCE AND ENGINEERING.—Of the funds under subsection (a), the following sums are authorized to be appropriated to carry out section 3(b)(5):

(1) \$200,000 for fiscal year 2002.

(2) \$200,000 for, fiscal year 2003.

(3) \$300,000 for fiscal year 2004.

(4) \$300,000 for fiscal year 2005.

(5) \$300,000 for fiscal year 2006.

(f) REFUELING OF RESEARCH REACTORS AND INSTRUMENTATION UPGRADES.—Of the funds under subsection (a), the following sums are authorized to be appropriated to carry out section 3(c)(1):

(1) \$6,000,000 for fiscal year 2002.

(2) \$6,500,000 for fiscal year 2003.

(3) \$7,000,000 for fiscal year 2004.

(4) \$7,500,000 for fiscal year 2005.

(5) \$8,000,000 for fiscal year 2006.

(g) RE-LICENSING ASSISTANCE.—Of the funds under subsection (a), the following sums are authorized to be appropriated to carry out section 3(c)(2):

(1) \$1,000,000 for fiscal year 2002.

(2) \$1,100,000 for fiscal year 2003.

(3) \$1,200,000 for fiscal year 2004.

(4) \$1,300,000 for fiscal year 2005.

(5) \$1,300,000 for fiscal year 2006.

(h) REACTOR RESEARCH AND TRAINING AWARD PROGRAM.—Of the funds under subsection (a), the following sums are authorized to be appropriated to carry out section 3(c)(3):

(1) \$6,000,000 for fiscal year 2002.

(2) \$10,000,000 for fiscal year 2003.

(3) \$14,000,000 for fiscal year 2004.